

Date: Tuesday, 23/09/2008 10:22:07 AM
 User: Julie Lecocq

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	BLADE
Job Number :	42222		
Estimate Number :	10327		
P.O. Number :		Part Number :	D2741
This Issue :	23/09/2008	S.O. No. :	
Prsht Rev. :	NC	Drawing Number :	D2741 REV C
First Issue :	11	Project Number :	N/A
Previous Run :	40724	Drawing Revision :	C
	Type : MACHINED PARTS	Material :	
Written By :		Due Date :	10/10/2008
Checked & Approved By :	Qty: 40 Um: Each		
Comment :	Est Rev: D 00.11.15 Removed P/O turning - in house processEC Est Rev: E 06-03-20 As Per Rev C JLM Est Rev: F 06.04.20 Added grinding after heat treating EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	M4130NB0500X03000	4130 Bar 0.500 x 3.00
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Comment: Qty.: 1 f(s)/Unit Total: 48 f(s)
 4130 BAR 0.5 x 3.0"
 Material: 4130 steel bar 0.50" x 3.00"

Batch: 1107899

ml 08/10/08

(40)

2.0	BAND SAW	BAND SAW
-----	----------	----------



Comment: BAND SAW
 Cut blanks 13.850" long +0.063" -0.000"

ml 08/10/08

(40)

3.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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Comment: HAAS CNC VERTICAL MACHINING #1
 1-Machine per folio FA108

ml 08/10/15

(40)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 23/09/2008 10:22:08 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BLADE

Job Number: 42222

Part Number: D2741

Job Number:



Seq. #:

Machine Or Operation:

Description :

4.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



(40)

Comment: INSPECT PARTS AS THEY COME OFF MACHINE

9ml / J.L. 08/10/15

5.0

QC8

SECOND CHECK



(40)

Comment: SECOND CHECK

H.A. 08/10/16

6.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Deburr

2-Bend per Dwg D2741

SB 08/10/20

(40)

7.0

QC5

INSPECT WORK TO CURRENT STEP



1 counter

Comment: INSPECT WORK TO CURRENT STEP

5 08/10/20

(40)

8.0

OUTSIDE SERV.30

OUTSIDE SERVICES-MACH



Comment: Sub-Contracting PURCHASING

Issue P/O: *7408*

Harden material as per Dwg D2741

Min. Ultimate Tensile Strength = 152 ksi (34-40 HRC)

Min. Yield Tensile Strength = 141 ksi

Test report or Certification required

C208/10/21

(40)

9.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive and Inspect for transit damage

Ensure Test report or Certification attached

P28/12 (40)

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

708/11/12 (40)

11.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE

1-Pass in deburring machine

2-Grind off edges

n/a THIS BATCH ONLY 9/11/14 M-1 08/11/14 wash with wash 'W' wipe

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 23/09/2008 10:22:08 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BLADE

Job Number: 42222

Part Number: D2741

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

POWDER COATING

POWDER COATING



14/109152



(45X)

Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.2) as per QSI 005 4.3

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

3:00
400°
3:30

MF

08/11/14

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

MF 08-11-14

(46)

14.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

RF 4/17

(40)

15.0

QC21

FINAL INSPECTION/W/O RELEASE



08/11/17

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF 08-11-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

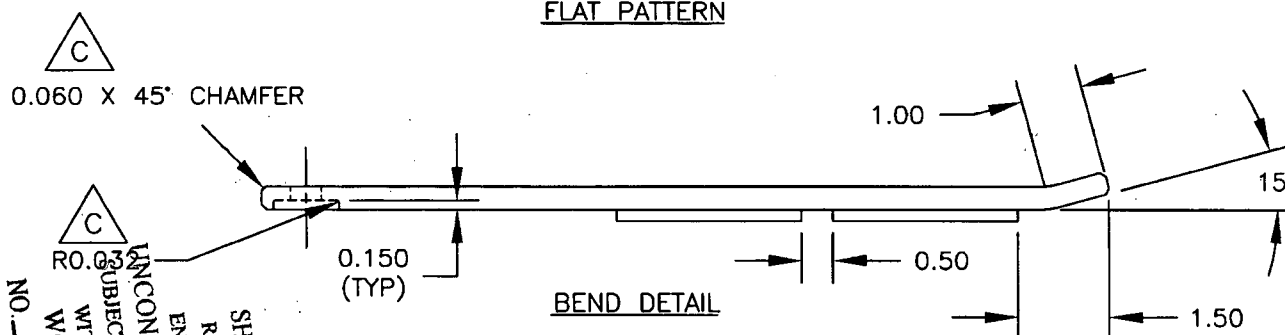
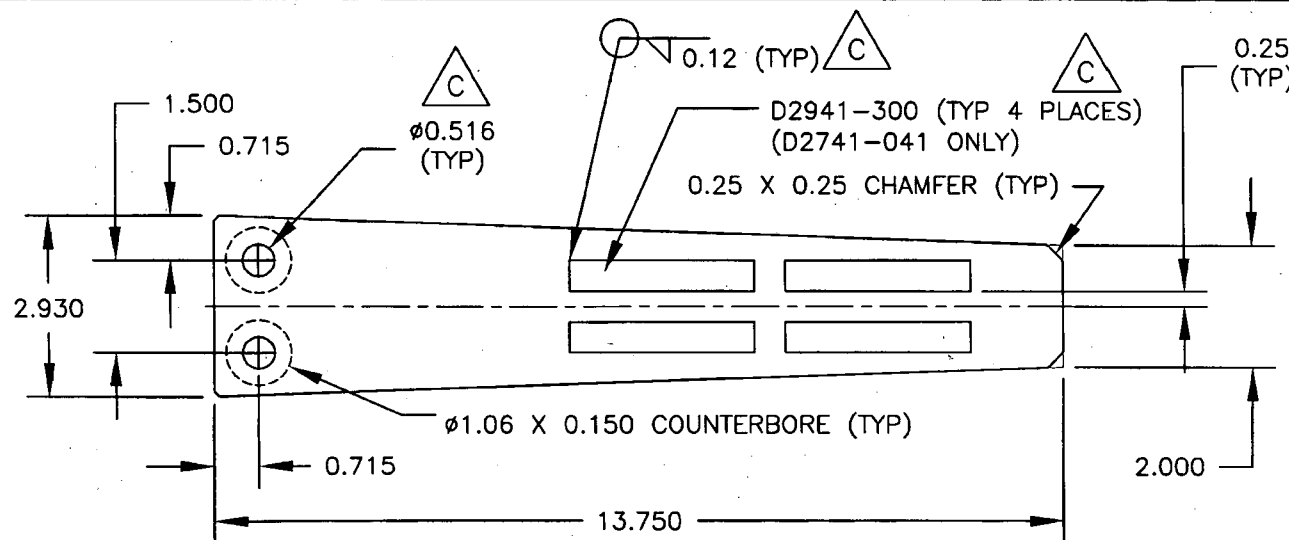
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

RELEASED
06 02 07

DESIGN	DRAWN BY	DART AEROSPACE USA, INC.	
		PORT HADLOCK, WA	
CHECKED	APPROVED	DRAWING NO.	REV. C
		D2741	SHEET 1 OF 1
DATE		TITLE	SCALE
06.01.12		BLADE	1:3
A	98.04.16	NEW ISSUE	
B	98.09.01	CHANGE C'SINK TO C'BORE	
C	06.01.12	LARGER HOLE, ADD RADIUS AND CHAMFER ADD -041/-043 OPTIONS	



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 122002

D2741 BLADE

- 1) MATERIAL: AISI 4130 STEEL 0.375 THICK
MIN. ULTIMATE TENSILE STRENGTH = 152 ksi (34-40 HRC)
MIN. YIELD TENSILE STRENGTH = 141 ksi
- 2) FINISH: POWDER COAT WHITE (REF. 4.3.5.2) PER DART QSI 005 4.3
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.030 TO 0.060
- 6) TO MAKE D2741-041, WELD D2941-300 (4) AS SHOWN ABOVE.
REMOVE POWDER COAT FROM SURFACE OF D2941-300
- 7) TO MAKE D2741-043, WELD 7560 HARDCOAT ROD INSTEAD OF D2941-300



VAC AERO
INTERNATIONAL INC.

PACKING SLIP

OAK 103830-1



HEAD OFFICE
1371 SPEERS ROAD, OAKVILLE, ONTARIO
CANADA L6L 2X5
TEL: (905) 827-4171 FAX: (905) 827-7489



QUEBEC DIVISION
7450 RUE VÉRITÉ STREET, ST. LAURENT, QUÉBEC
CANADA H4S 1C5
TEL: (514) 334-4240 FAX: (514) 334-6269

GST No. : R105468102

11/10/2008

MM / DD / YYYY

PAGE : 1

1DAR01

BILL TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

SHIP TO: DART AEROSPACE LTD.
1270 ABERDEEN ST.
HAWKESBURY, ON

K6A 1K7

K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
11/10/2008		ORIGIN
CUSTOMER P/O No.	JOB No.	TERMS
7408		NET 30 DAYS

LN	PART NO	DESCRIPTION	UOM	QTY ORDERED	QTY SHIPPED	B/O QTY
01	D2741	(B 42222) Process Specifications: Procedure: 4161 HARDENED PER DWG. D2741 TO 152 KSI MINIMUM 100% HARDNESS TESTED PER ASTM E-18, 34/40 HRC MATERIAL: 4130	EA	40	40	0
02	MC	MINIMUM CHARGE 100 LBS @ \$2.35/LB		1	1	0

No claims for shortage in weight or count will be entertained, unless presented within 5 working days after receipt of materials by customer.



VACUUM BRAZING · HEAT TREATING · SPECIAL PROCESSING · FURNACE EQUIPMENT
TURBINE COMPONENT OVERHAUL · PLASMA AND OTHER COATINGS





VAC AERO
INTERNATIONAL INC

RELEASE NOTE

GST No.: R105468102

OAK 103830-1



HEAD OFFICE
1371 SPEERS ROAD, OAKVILLE, ONTARIO
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2009 WYECROFT ROAD, UNIT B
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1DAR01

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SHIP TO: DART AEROSPACE LTD.
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HAWKESBURY, ON

K6A 1K7

K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
11/10/2008		ORIGIN
CUSTOMER P/O No.	JOB No.	TERMS
7408		NET 30 DAYS

PART No.	DESCRIPTION	UOM	QTY ORD	QTY SHPD	TEST RESULTS
D2741	(B 42222)	EA	40	40	
Process Specifications: Procedure: 4161 HARDENED PER DWG. D2741 TO 152 KSI MIN MUM 100% HARDNESS TESTED PER ASTM E-18, 34 40 HRC MATERIAL: 4130					
<div style="border: 2px solid black; padding: 10px; display: inline-block;"> 100% HARDNESS TESTED 40 pc. 37/38 + HRC V.A.I.O. TH. 25 Q.C. </div>					

I hereby certify that the material covered by this release note has been inspected and tested and conforms to all specifications relevant thereto in accordance with the conditions of the contract / or purchase order.

ON BEHALF OF VAC AERO INTERNATIONAL INC.

Diana Robinson
Authorized Q.C. Inspector



VACUUM BRAZING - HEAT TREATING - SPECIAL PROCESSING - FURNACE EQUIPMENT
TURBINE COMPONENT REPAIR - PLASMA AND OTHER COATINGS



HEAT
TREATING